

CLAIMS:

1. A modified vanadium compound, characterized in that vanadium sulfate (III) or a mixed vanadium compound of vanadium sulfate (III) and vanadyl sulfate (IV) contains excessive sulfuric acid other than sulfate group composing the vanadium sulfate (III) or the vanadyl sulfate (IV).

2. The modified vanadium compound according to claim 1, characterized in that the excessive sulfuric acid of 10 to 30 weight% is contained in the modified vanadium compound.

3. The modified vanadium compound according to claim 1, characterized in that a molar ratio (V^{4+}/V^{3+}) of tetravalent vanadium atoms to trivalent vanadium atoms in the mixed vanadium compound is within a range of 0.65 to 1.5.

4. The modified vanadium compound according to claim 1, characterized in that a molar ratio (V^{4+}/V^{3+}) of tetravalent vanadium atoms to trivalent vanadium atoms in the mixed vanadium compound is within a range of 0.95 to 1.05.

5. The modified vanadium compound according to claim 1, characterized in that a form of the modified vanadium compound is particle, and the excessive sulfuric acid is held on surfaces or insides of the particles.

6. The modified vanadium compound according to claim 5, characterized in that an average particle diameter is not more than 30 mm.

7. A modified vanadium compound producing method,

characterized in that a vanadium-contained solution, in which vanadium sulfate (III) or a mixed vanadium compound of vanadium sulfate (III) and vanadyl sulfate (IV) is dissolved in a sulfate solution, is condensed, cooled to be solidified.

8. A modified vanadium compound producing method, characterized in that vanadium sulfate (III) or a mixed vanadium compound of vanadium sulfate (III) and vanadyl sulfate (IV) is dissolved in a sulfate solution, and an obtained vanadium-contained solution is condensed and is cooled to be solidified.

9. A redox flow battery electrolyte composite, characterized by containing the modified vanadium compound according to claim 1.

10. A redox flow battery electrolyte producing method, characterized in that the modified vanadium compound according to claim 1 is dissolved in water.